

# AXL F AI8 XC 1F - Analog module

2701232

<https://www.phoenixcontact.com/us/products/2701232>

Please be informed that the data shown in this PDF document is generated from our online catalog. Please find the complete data in the user documentation. Our general terms of use for downloads are valid.



The figure shows the standard item

Axioline F, Analog input module, Analog inputs: 8, 0 V ... 5 V, -5 V ... 5 V, 0 V ... 10 V, -10 V ... 10 V, 0 mA ... 20 mA, 4 mA ... 20 mA, -20 mA ... 20 mA, connection technology: 2-conductor, transmission speed in the local bus: 100 Mbps, Extreme conditions version, degree of protection: IP20, including bus base module and Axioline F connectors

## Product description

The module is designed for use within an Axioline F station. It is used to acquire analog voltage and current signals.

## Your advantages

- 8 analog, bipolar input channels for the connection of either voltage or current signals
- Connection of sensors in 2-conductor technology
- Voltage ranges: 0 V ... 10 V,  $\pm 10$  V, 0 V ... 5 V,  $\pm 5$  V
- Current ranges: 0 mA ... 20 mA, 4 mA ... 20 mA,  $\pm 20$  mA
- Device rating plate stored
- Can be used under extreme ambient conditions
- Extended temperature range of -40 °C ... +70 °C (see "Tested successfully: use under extreme ambient conditions" in the data sheet)
- Partially coated PCBs

## Commercial data

Item number	2701232
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR02
Product key	DRI241
GTIN	4046356730495
Weight per piece (including packing)	273.8 g
Weight per piece (excluding packing)	204 g
Customs tariff number	85389091
Country of origin	DE

# AXL F AI8 XC 1F - Analog module

2701232

<https://www.phoenixcontact.com/us/products/2701232>

## Technical data

### Dimensions

Dimensional drawing	
Width	53.6 mm
Height	126.1 mm
Depth	54 mm
Note on dimensions	The depth applies when a TH 35-7.5 DIN rail is used (in accordance with EN 60715).

### Notes

#### Note on application

Note on application	Only for industrial use
---------------------	-------------------------

### Material specifications

Color (Housing)	gray (RAL 7042)
-----------------	-----------------

### Interfaces

#### Axioline F local bus

Number of interfaces	2
Connection method	Bus base module
Transmission speed	100 Mbps

### System properties

#### Programming data (LocalbusSlave)

Input address area	16 Byte
Output address area	0 Byte

#### Fieldbus data telegram (PROFIBUS)

Required parameter data	11 Byte
Required configuration data	6 Byte

### Input data

#### Analog:

Input name	Analog inputs
Description of the input	Differential inputs, voltage or current can be chosen separately
Number of inputs	8

# AXL F AI8 XC 1F - Analog module



2701232

<https://www.phoenixcontact.com/us/products/2701232>

A/D conversion time	2 $\mu$ s
Connection method	Push-in connection
Connection technology	2-conductor
Note regarding the connection technology	shielded, twisted pair
Current input signal	0 mA ... 20 mA 4 mA ... 20 mA -20 mA ... 20 mA
Input resistance current input	104 $\Omega$ (typical)
Voltage input signal	0 V ... 5 V -5 V ... 5 V 0 V ... 10 V -10 V ... 10 V
Input resistance of voltage input	268 k $\Omega$ (typical)
A/D converter resolution	16 bit
Data formats	IB IL, S7-compatible
Input filter	30 Hz, 12 kHz and mean value generation (can be parameterized)
Filtering	RFI filtering / passive TP 1st order
Limit frequency (3 dB)	30 Hz 12 kHz (in fast mode)
Common mode voltage range signal - ground	-50 V DC ... 50 V DC
Measured value representation	16 bits (15 bits + sign bit)
Protective circuit	Transient protection of inputs; Suppressor diode Overload protection of the current inputs; No; $\pm 5.2$ V DC, maximum, $I_{max} = 50$ mA Overload protection of the voltage inputs; $\pm 30$ V DC, maximum

## Product properties

Product type	I/O component
Product family	Axioline F
Type	block modular
Mounting position	any (no temperature derating)
Scope of supply	including bus base module and Axioline F connectors
Special properties	Extreme conditions version

## Insulation characteristics

Overvoltage category	II (IEC 60664-1, EN 60664-1)
Pollution degree	2 (IEC 60664-1, EN 60664-1)

## Electrical properties

Maximum power dissipation for nominal condition	2 W
---	-----

## Potentials: Axioline F local bus supply ( $U_{Bus}$ )

Supply voltage	5 V DC (via bus base module)
Current draw	max. 130 mA (up to HW 01) max. 60 mA (from HW 02)

# AXL F AI8 XC 1F - Analog module



2701232

<https://www.phoenixcontact.com/us/products/2701232>

	typ. 105 mA (up to HW 01)
	typ. 45 mA (from HW 02)

## Potentials: Supply for analog modules ( $U_A$ )

Supply voltage	24 V DC
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 55 mA (from HW 02)
	max. 45 mA (up to HW 01)
	typ. 43 mA (from HW 02)
	typ. 35 mA (up to HW 01)
Protective circuit	Surge protection; electronic (35 V, 0.5 s)
	Reverse polarity protection; Polarity protection diode
	Transient protection; Suppressor diode

## Electrical isolation/isolation of the voltage ranges

Test voltage: 5 V supply of the local bus ( $U_{BUS}$ ) / 24 V supply (I/Os)	500 V AC, 50 Hz, 1 min
Test voltage: 5 V supply of the local bus ( $U_{BUS}$ ) / analog inputs	500 V AC, 50 Hz, 1 min
Test voltage: 5 V supply of the local bus ( $U_{BUS}$ ) / functional ground	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (I/O) / analog inputs	500 V AC, 50 Hz, 1 min
Test voltage: 24 V supply (I/O) / functional ground	500 V AC, 50 Hz, 1 min
Test voltage: Analog inputs / functional ground	500 V AC, 50 Hz, 1 min

## Connection data

### Connection technology

Connection name	Axioline F connector
Note on the connection method	Please observe the information provided on conductor cross-sections in the "Axioline F: system and installation" user manual.

### Axioline F connector

Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross-sections in the "Axioline F: system and installation" user manual.
Conductor cross-section, rigid	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section, flexible	0.2 mm <sup>2</sup> ... 1.5 mm <sup>2</sup>
Conductor cross-section AWG	24 ... 16
Stripping length	8 mm

## Environmental and real-life conditions

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C (Standard)
	-40 °C ... 70 °C (Extended, see section "Tested successfully: use under extreme ambient conditions" in the data sheet.)
Degree of protection	IP20
Air pressure (operation)	70 kPa ... 106 kPa (up to 3000 m above sea level)

# AXL F AI8 XC 1F - Analog module



2701232

<https://www.phoenixcontact.com/us/products/2701232>

Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)

## Mechanical test

Vibration resistance in accordance with EN 60068-2-6/IEC 60068-2-6	5g
Shock in accordance with EN 60068-2-27/IEC 60068-2-27	30g
Continuous shock in accordance with EN 60068-2-27/IEC 60068-2-27	10g

## Test (noxious gas)

Test standard	ISA-71.04-2013 G3 Harsh Group A
	IEC 60068-2-60:2015 Method 4
Temperature	25 °C ±1 K
Humidity (relative)	75 % ±3 %
Test duration	21 Days
Volume concentration H <sub>2</sub> S (Hydrogen sulfide)	50 ppb
Volume concentration NO <sub>2</sub> (Nitrogen dioxide)	1250 ppb
Volume concentration Cl <sub>2</sub> (Chlorine)	10 ppb
Volume concentration SO <sub>2</sub> (Sulfur dioxide)	300 ppb

## Standards and regulations

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
------------------	---------------------------------------

## Mounting

Mounting type	DIN rail mounting
Mounting position	any (no temperature derating)

# AXL F AI8 XC 1F - Analog module

2701232

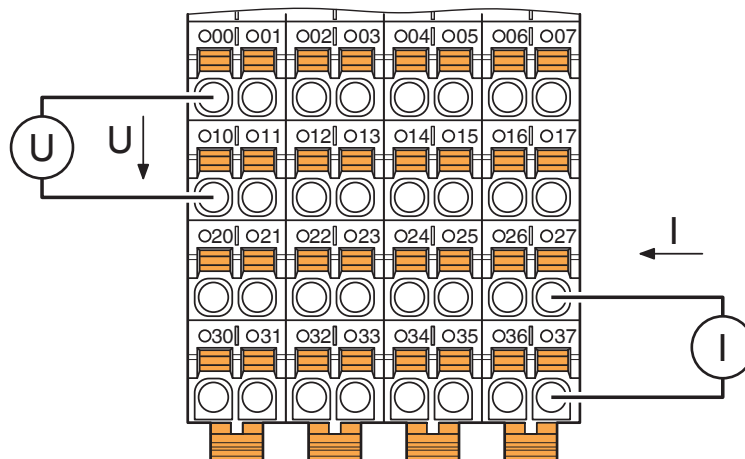
<https://www.phoenixcontact.com/us/products/2701232>

## Drawings

Dimensional drawing



Connection diagram



Connection for voltage and current measurement

# AXL F AI8 XC 1F - Analog module

2701232

<https://www.phoenixcontact.com/us/products/2701232>



Connection diagram



Active pressure sensor at a differential current input

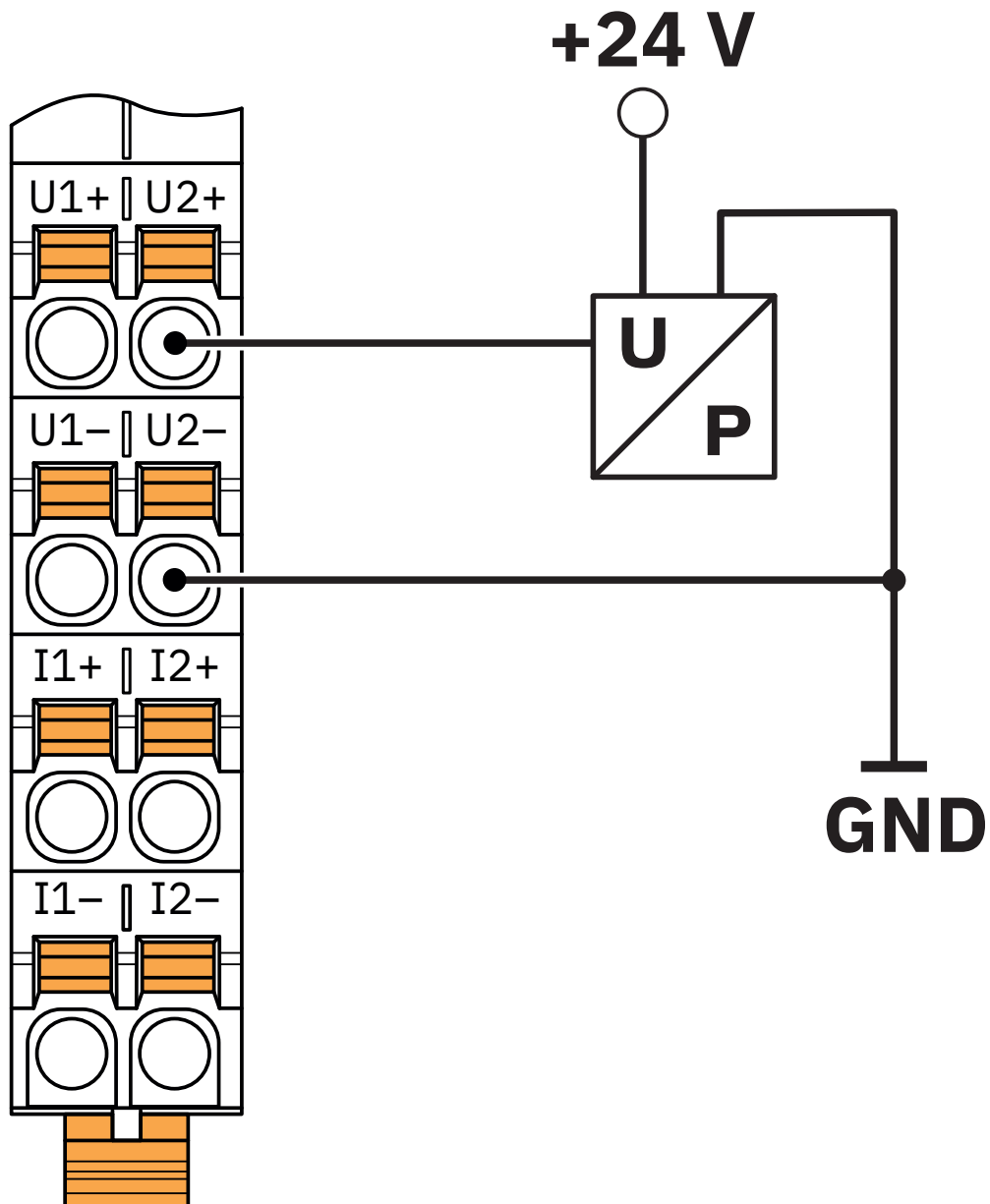
# AXL F AI8 XC 1F - Analog module

2701232

<https://www.phoenixcontact.com/us/products/2701232>



Connection diagram



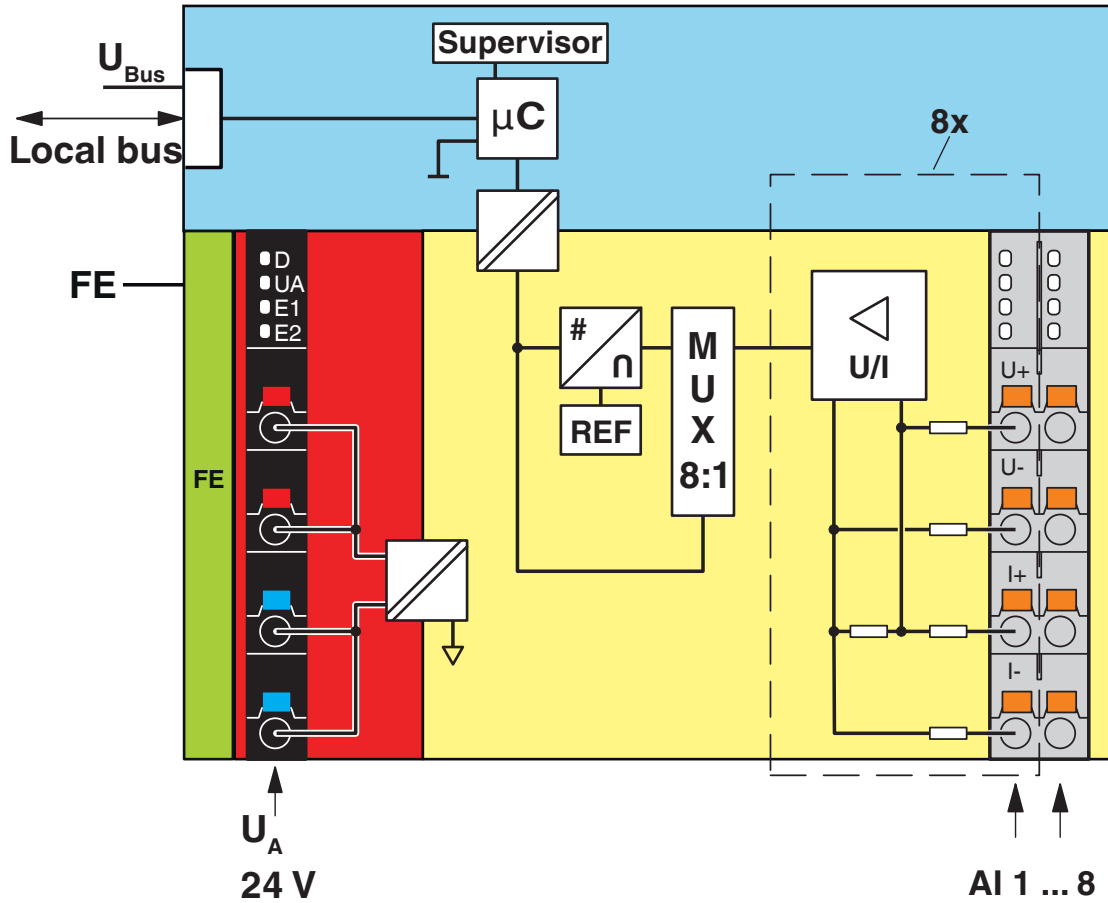
Differential voltage input with active 3-conductor transmitter

# AXL F AI8 XC 1F - Analog module

2701232

<https://www.phoenixcontact.com/us/products/2701232>

Block diagram



Internal wiring of the terminal points

# AXL F AI8 XC 1F - Analog module



2701232

<https://www.phoenixcontact.com/us/products/2701232>

## Approvals

To download certificates, visit the product detail page: <https://www.phoenixcontact.com/us/products/2701232>



**DNV GL**

Approval ID: TAA00000DF



**LR**

Approval ID: LR2480202TA-02



**PRS**

Approval ID: TE/1020/880590/21

**BSH**

Approval ID: 840



**cULus Listed**

Approval ID: E238705

# AXL F AI8 XC 1F - Analog module



2701232

<https://www.phoenixcontact.com/us/products/2701232>

## Classifications

### ECLASS

ECLASS-13.0	27242601
ECLASS-15.0	27242601

### ETIM

ETIM 10.0	EC001596
-----------	----------

### UNSPSC

UNSPSC 21.0	32151600
-------------	----------

# AXL F AI8 XC 1F - Analog module



2701232

<https://www.phoenixcontact.com/us/products/2701232>

## Environmental product compliance

### EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

### China RoHS

Environment friendly use period (EFUP)	EFUP-50
	An article-related China RoHS declaration table can be found in the download area for the respective article under "Manufacturer declaration". For all articles with EFUP-E, no China RoHS declaration table issued and required.

### EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
	6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol(CAS: 119-47-1)
SCIP	269c814f-2fcf-4ef2-8c1d-3ea60215aaa8

Phoenix Contact 2026 © - all rights reserved  
<https://www.phoenixcontact.com>

Phoenix Contact USA  
586 Fulling Mill Road  
Middletown, PA 17057, United States  
(+717) 944-1300  
[info@phoenixcon.com](mailto:info@phoenixcon.com)